

Presents:

**Tuesday 23 August 2011**

**Time:** 5:30pm for 6:00pm start

**Venue:**

Hawken Auditorium  
Engineering House  
447 Upper Edward St  
Brisbane

**Cost:**

Members	\$15
Non Members	\$30
Students	\$10

Please register to assist catering

***PLEASE NOTE: booking online is essential.  
There is no longer a pay at the door option.***

**Speaker profiles:**

**Dr Barrie Pittock** – *retired climate scientist, author and dad*

Barrie Pittock led the Climate Impact Group in CSIRO, until his retirement in 1999. He contributed to or was a lead author of all four major reports of the Intergovernmental Panel on Climate Change. Since retiring, he has written *Climate Change: An Australian Guide to the Science and Potential Impacts*, for the Australian Greenhouse Office (2004), and *Climate Change: The Science, Impacts and Solutions* (2nd. edition), Barrie Pittock, March 2009:

see <http://www.publish.csiro.au/nid/20/pid/6010.htm>.

He is a CSIRO Honorary Fellow.

**Dr Jamie Pittock** –

- *Program Leader, Australia and United States - Climate, Energy and Water, US Studies Centre*

- *Director of International Programs, UNESCO Chair in Water Economics and Transboundary Water Governance*

Jamie Pittock has a background in geography from Monash University and from 1989 he worked for various non-government environmental organisations. Jamie was Director of WWF's Global Freshwater Programme from 2001 to 2007 promoting sustainable river basin management and representing WWF in international institutions. After completing doctoral research on management of freshwater and climate change, in 2010 Jamie was appointed as Program Leader, Australia and United States Climate, Energy and Water for the United States Studies Centre, and also as Director of International Programs for the UNESCO Chair in Water Economics and Transboundary Water Governance at the Crawford School of Economics and Government at the Australian National University. His research considers how our societies under climate change can better manage increasingly scarce and variable water resources to benefit people and nature, including better governance of water infrastructure.

## Conflict Synergies Climate, Energy and Water

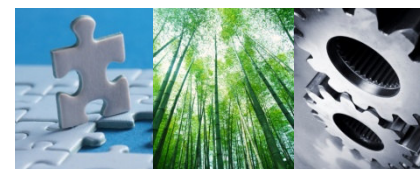
This is a unique opportunity for SSEE members to hear from father and son, both passionate about what needs to be done, and how their work inter-relates.

### **Living with Floods: Some History and Future Prospects**

Barrie's work as a climate scientist has taken him from studies of climate variability such as the El Nino-La Nina cycle which is so critical regarding our country of droughts and flooding rains, to human-induced climate change. Barrie will quickly summarise the latest findings on what might happen to extreme events, especially heavy rains, under global warming scenarios, with some reference to the sceptics. While it is still too early to be certain that floods will get worse it ill behoves us to wait for absolute proof. By the time there is statistical proof the changes will have happened and we will be living with the consequences. Failing to act now is like waiting for proof that our house will burn down before insuring it. By then it will be too late.

Prof. Gilbert White, former Director of the Natural Hazards Center at the University of Colorado, was a world authority on adjustment mechanisms for flood management. White's thesis, on human adjustments to floods in the United States, published in 1945, described 8 forms of adjustment: elevating land or buildings; abating floods by land treatment (such as afforestation); protecting against floods by levees and dams; providing emergency warning and evacuation; making structural changes to buildings and transport; changing land use; distributing relief; and taking out insurance. He concluded that adjustments are not neutral, but rather favour one form of floodplain use over another and may in fact increase risk by encouraging unsuitable development.

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White urged that public policy should consider all forms of adjustment and weigh the full range of costs and benefits. His thesis is worth reading: see [www.colorado.edu/hazards/gfw](http://www.colorado.edu/hazards/gfw). White, a devout Quaker, saw four stages in the history of modern Mankind's relationship with the Earth: the Earth surveyed; the Earth to be developed; the Earth at risk; and finally the Earth as the unique spiritual home of the human family.

Finally Barrie will suggest that reducing climate change via reduced greenhouse gas emission is another necessary adjustment. He will comment on how this might be done, with a lot of engineering.

**Dammed if we do, damned if we do nothing**

*"I think it's time that as a nation we put new dams back on our agenda and I think that the Queensland flood disaster makes this very timely indeed because dams can be flood mitigation devices as well as water storages. They can be a potential source of zero emissions power as well as water storages. They can be a source of environmental flows in dry times as well as just water shortages."*

These were the words of one senior politician following floods in the past year, but would more dams really make sense in an era of climate change? After more than twenty years involvement in policy debates over water infrastructure in Australia and abroad, Dr Jamie Pittock argues that populist policies that confuse water storage and flood control, and promote more of the same water infrastructure technology would be a grave mistake. Instead, he argues that society's responses to climate change and for better freshwater ecosystem management require a new approach to water infrastructure. These will increase the demand for engineers for work on more diverse and rewarding projects. He will argue that under conditions of changing hydrology and different demands for water services, that water engineers will need to deploy new technologies and develop more flexible infrastructure, as well as frequently adapting the management (or removing) existing infrastructure. Periodic infrastructure relicensing, pumped storage hydropower and potable reuse will be three of the solutions that he will propose.

**The presentation will be followed by discussion where comments and questions from attendees will be welcomed.**

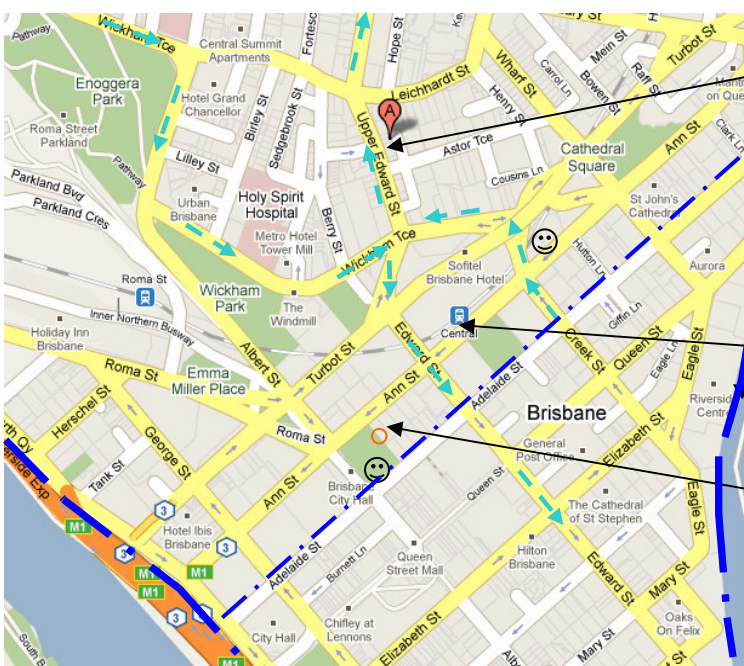
**Drinks and Networking**

Please join us for a few drinks and light supper after the presentation.

- For catering purposes **please register by 5pm on Thursday 18 August 2011.**
- Register on-line at the Engineers Australia [QLD Division Events Website](http://www.ea.org.au)
- Please telephone Qld Division for any registration queries (07) 3832 3749

**The presentation will count as one and a half (1.5) hours towards your EA CPD.**

**SSEE encourages you to travel by public transport.**



- Engineering House**  
447 Upper Edward St
- Spring Hill Loop bus**  
every 10 minutes until 6pm
- Pedestrian - Cycle way**
- Central Train Station**
- Transport Information Centre**
- CityCycle station**

For more information go to <http://www.translink.com.au/> or visit the **Transport Information Centre** at King George Square station, Ann Street Concourse.

Visit the SSEE website at: <http://ssee.org.au/>

